REMARKS

The applicant has reintroduced previously canceled claims 16-53 as new claims 54-91.

The comments of the applicant below are each preceded by related comments of the examiner (in small, bold type).

> **Claims 1-2, 6, 12-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Gridley [US Pat: 5,926,473].**
>
> **Regarding claim 1, Gridley in the invention of "Distributed Processing Ethernet Switch with Adaptive Cut-Through Switching" disclosed a packet switching system using a distributed implementation of a routing control protocol to route a packet between a plurality of computer networks (Fig 2), comprising: a control-plane (item 105 of Fig 2, LAN Controller Bus) having a control-plane processor (item 115 of Fig 2) to: implement a central control portion of the control protocol; a plurality of forwarding planes (items 110a-110h of Fig 2), each having a forwarding-plane processor (LAN CTL #1 to LAN CTL #8, items 110a-110h of Fig 2) to implement an offload control portion (apply cut through method for packet header processing, col 2, lines 5-48) of the control protocol and a plurality of ports (Port-1 to Port-8 of Fig 2) to connect the router to the computer networks; and a back-plane (item 20 of Fig 2) to connect the control plane to the plurality of forwarding-planes and to enable processing of the packet (item 130 of Fig 2) based on an implementation of the control protocol by the control-plane and the forwarding-plane [Figs 1-4, col 2, lines 5-67, col 3,1-67, col 4, lines 1-65].**

The applicant disagrees. In claim 1, a routing control protocol is distributed between a "central control portion" implemented in a control plane and "an offload control portion" implemented in forwarding planes. The examiner contends that *Gridley*'s LAN card (item 100 of Fig. 2) implements a distributed routing control protocol including both a central control portion (implemented by *Gridley*'s Port Controller, item 115 of Fig. 2) and an offload control portion (implemented by *Gridley*'s LAN CTLs #1 to #8, items 110a-110h of Fig. 2).

In fact, *Gridley*'s LAN card does not implement any kind of control protocol that could be characterized as "routing", distributed or otherwise. Instead, in *Gridley's*, LAN card, the packet processor "obtains forwarding decisions, such as discard, translate, multicast, or forward to a destination LAN card and port, *from the system card* **200**." (col. 3 lines 49-52) (emphasis

added). The Port Controller on the LAN card (item 115 of Fig. 2) does not implement any kind of routing protocol, including any central control portion; the Port Controller only "coordinates the reading and writing by each of the LAN controllers **110A-100H** and the FIFO **120** to ensure that no data collisions occur on the LAN controller bus **105** and to drive LED indicators on the card to show port activity." (col. 3 lines 38-41). The LAN CTLs #1 to #8 on the LAN card also do not implement any kind of routing protocol, off-loaded or otherwise; they simply "send[] and receive[] packets to and from eight ports." (col. 3 lines 34-35). Therefore, *Gridley*'s LAN card 100 does not use and would not have suggested "a distributed implementation of a routing control protocol ... comprising a control-plane ...to implement a central control portion of the control protocol [and] a plurality of forwarding-planes...to implement an offload control portion of the control protocol" as recited in claim 1.

In a possible alternative construction of *Gridley* , the LAN card (item 100 of Fig. 1) would be seen as a forwarding plane and the system card (item 200 of Fig. 1) as a control plane. However, even under this alternative construction, *Gridley* did not describe and would not have made obvious the limitations of claim 1. *Gridley* did not describe a distributed implementation of a routing control protocol. In *Gridley*, all forwarding decisions are implemented on the system card, and subsequently forwarded to the appropriate LAN cards. (*See* col. 3 line 58 through col. 4 line 15). The LAN cards then transfer the packet according to the decisions received from the system card; they do not implement any kind of routing control protocol. (*See* col. 4 lines 30-41). Therefore, *Gridley* does not disclose and would not have suggested a router "using a distributed implementation of a routing control protocol ... comprising a control-plane

...to implement a central control portion of the control protocol [and] a plurality of forwarding-planes...to implement an offload control portion of the control protocol" as recited in claim 1.

New claim 54 recites a method using a distributed implementation of a control protocol comprising "implementing a central control portion of a control protocol in a control-plane of a router and an offload control portion of the control protocol in a forwarding plane of the router..." As explained above, *Gridley* does not disclose a method of using a distributed implementation of a control protocol comprising implementing a central control portion of a control protocol in a control plane and implementing an offload control portion of a control protocol in a forwarding plane as recited in claim 54.

New claim 65 recites an article that stores instructions causing a router to "implement a central control portion of a control protocol in a control-plane of a router and an offload control portion of the control protocol in a forwarding plane of the router..." As explained above, *Gridley* does not disclose an article that stores instructions causing a router to implement a central control portion of a control protocol in a control plane and to implement an offload control portion of a control protocol in a forwarding plane as recited in claim 65.

New claim 69 recites a router "using a distributed implementation of a routing control protocol ... comprising a control-plane ...to implement a central control portion of the control protocol [and] a plurality of forwarding-planes...to implement an offload control portion of the control protocol." As explained above, *Gridley* does not disclose a router using a distributed implementation of a routing control protocol comprising a control-plane to implement a central

control portion of the control protocol and a plurality of forwarding-planes to implement an offload control portion of the control protocol as recited in claim 69.

New claim 77 recites a control plane "using a distributed implementation of a routing control protocol to route a packet, comprising a control plane processor to implement a first control portion of the control protocol and interact with a plurality of forwarding-planes, which implement a second control portion of the control protocol...." As explained above, *Gridley* does not disclose a control plane using a distributed implementation of a control protocol comprising a control plane processor to implement a first control portion of a control protocol in a control plane and to interact with a plurality of forwarding planes implementing a second control portion of the control protocol as recited in claim 77.

New claim 79 recites a forwarding-plane "using a distributed implementation of a routing control protocol to route a packet, comprising a forwarding-plane processor to implement an offload control portion of the control protocol and interact with a control-plane, which implements a central control portion of the control protocol...." As explained above, *Gridley* does not disclose a forwarding plan using a distributed implementation of a routing control protocol comprising a forwarding-plane processor to implement an offload control portion a the control protocol and interact with a control plane implementing a central control portion of the control protocol as recited in claim 79.

New claim 85 recites a control plane processor for a router using a distributed implementation of a routing control packet comprising instructions "to implement a first control portion of the control protocol and interact with a plurality of forwarding-planes, which

implement a second control portion of the control protocol...." As explained above, *Gridley* does not disclose a control plane processor for a router using a distributed implementation of a routing control packet comprising instructions to implement a first control portion of the control protocol and interact with a plurality of forwarding-planes implementing a second control portion of the control protocol as recited in claim 85.

New claim 87 recites a forwarding-plane processor for a router using a distributed implementation of a routing control protocol comprising instructions "to implement an offload control portion of the control protocol and interact with a control-plane, which implements a central control portion of the control protocol..." As explained above, *Gridley* does not disclose a forwarding-plane processor for a router using a distributed implementation of a routing control protocol comprising instructions to implement an offload control portion of the control protocol and interact with a control-plane implementing a central control portion of the control protocol as recited in claim 87.

The examiner has indicated claims 1-15 patentable with respect to *Nair*. New claims 54, 65, 69, 77, 79, 85, and 87 are believed to be patentable with respect to *Nair* for at least similar reasons.

In new claim 54, a routing control protocol is distributed between a "central control portion" implemented in a control plane and "an offload control portion" implemented in forwarding planes. The examiner apparently contends that Nair's line cards 120 are such planes. However, Nair's line cards do not implement an offload portion of a routing control protocol. As explained in the specification at page 5, line 19 through page 6, line 18, implementing an offload

portion of a routing control protocol could include, for example, directing and controlling the flow of packets between computers by generating or responding to HELLO messages or exchanging messages with another router to request a database description. Nair's line card merely looks at a packet to determine whether either (a) its routing information has already been determined, in which case the line card simply forwards the packet onward, or (b) the packet is not recognized, in which case the line card forwards the packet to another device for routing. (para. 0040). Thus, Nair's line cards do not implement an offload control portion of a routing control protocol as recited in claim 54.

In new claim 65, a routing control protocol is distributed between a "central control portion" implemented in a control plane and "an offload control portion" implemented in forwarding planes. As explained above, Nair's line cards do not implement an offload control portion of a routing control protocol as recited in claim 65.

In new claim 69, a routing control protocol is distributed between a "first control portion" implemented in a control plane and "a second control portion" implemented in forwarding planes. As explained above, Nair's line cards do not implement a second control portion of a routing control protocol as recited in claim 69.

In new claim 77, a routing control protocol is distributed between a "central control portion" implemented in a control plane and "an offload control portion" implemented in forwarding planes. As explained above, Nair's line cards do not implement an offload control portion of a routing control protocol as recited in claim 77.

In new claim 79, a routing control protocol is distributed between a "central control portion" implemented in a control plane and "an offload control portion" implemented in forwarding planes. As explained above, Nair's line cards do not implement an offload control portion of a routing control protocol as recited in claim 79.

In new claim 85, a routing control protocol is distributed between a "central control portion" implemented in a control plane and "an offload control portion" implemented in forwarding planes. As explained above, Nair's line cards do not implement an offload control portion of a routing control protocol as recited in claim 85.

In new claim 87, a routing control protocol is distributed between a "central control portion" implemented in a control plane and "an offload control portion" implemented in forwarding planes. As explained above, Nair's line cards do not implement an offload control portion of a routing control protocol as recited in claim 87.

All dependent claims are patentable for at least the same reasons as the claims on which they depend.

Canceled claims, if any, have been canceled without prejudice or disclaimer.

Any circumstance in which the applicant has (a) addressed certain comments of the examiner does not mean that the applicant concedes other comments of the examiner, (b) made arguments for the patentability of some claims does not mean that there are not other good reasons for patentability of those claims and other claims, or (c) amended or canceled a claim does not mean that the applicant concedes any of the examiner's positions with respect to that claim or other claims.

Enclosed is a $2650 check for excess claim fees. Please apply any other charges or credits to deposit account 06-1050.

Respectfully submitted,

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